

Claims:

1. Process for the manufacture of a hydratable porous polymer comprising the steps of:
  - (a) providing a homogeneous composition at a temperature below the cloud point temperature of the composition comprising
    - (i) a polymerizable component that comprises at least one polymerizable hydrophilic monomer or macromer,
    - (ii) a porogen having an inverse temperature dependent solubility, and
    - (iii) a solvent;
  - (b) subjecting the composition to a polymerization reaction at or above the cloud point temperature of the composition; and
  - (c) removing the porogen from the resulting porous polymer at a temperature below the cloud point temperature of the composition.
2. A process according to claim 1, wherein the polymerizable component comprises one or more different hydrophilic monomers selected from the group consisting of acrylic and methacrylic acid, a C<sub>1</sub>-C<sub>18</sub>-alkyl ester of acrylic or methacrylic acid which may be substituted in the alkyl portion by hydroxy, acrylamide and a N-mono- or N,N-di-C<sub>1</sub>-C<sub>4</sub>-alkylacrylamide, a 5- or 6-membered heteroaromatic or heteroaliphatic monomer having one N-atom and in addition no further heteroatom or an additional N- or O- heteroatom, a 5 to 7-membered lactame, a sulfocontaining monomer having from 2 to 18 C-atoms, vinyl acetate and vinyl alcohol.
3. A process according to claim 1, wherein the polymerizable component comprises one or more different hydrophilic monomers selected from the group consisting of hydroxyethyl acrylate, hydroxyethyl methacrylate, N-vinyl pyrrolidone, acrylic acid, methacrylic acid, acrylamide, N,N-dimethyl acrylamide, N-acryloyl morpholine, vinyl acetate, vinyl alcohol, methallylsulfonic acid, styrenesulfonic acid, sulfopropylmethacrylate, sulfopropylacrylate, 2-acrylamido-2-methylpropanesulfonic acid, vinyl sulfonic acid, and a suitable salt thereof.
4. A process according to claim 2, wherein the polymerizable component in addition comprises a low molecular weight crosslinker.

5. A process according to claim 1, wherein the polymerizable component consists of from 80 to 99.5 % by weight of one or more ethylenically unsaturated monomers and from 0.5 to 20 % by weight of a low molecular weight crosslinker.

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6. A process according to claim 1, wherein the porogen is a block copolymer of polyethylene oxide (PEO) and polypropylene oxide (PPO) of the formula PEO-PPO-PEO or PPO-PEO-PPO.

10 7. A process according to claim 1, wherein the solvent of the composition of step (a) comprises water.

8. A process according to claim 1, wherein the composition according to step (a) comprises from 20 to 90 % of a polymerizable component (i), from 5 to 40 % of a porogen (ii), and from 5 to  
15 60 % of a solvent, in each case by weight relative to the entire composition.

9. A process according to claim 1, wherein in step (b) the composition of step (a) is photopolymerized in the presence of a photoinitiator.

20 10. A process according to claim 1, wherein in step (b) the composition of step (a) is photopolymerized at a temperature of from 30 to 40°C.

11. A molding obtainable by carrying out the process according to claim 1 in a mold.

25 12. A molding according to claim 11, which is a biomedical device.

13. A molding according to claim 12, which is a medical implant.

14. A molding according to claim 12, which is an ocular prostheses.

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15. A molding according to claim 12, which is an implantable intraocular lens or artificial cornea.